



## Chapter 6 Vision - The Future of Solid Waste Management in Kansas

### Kansas Solid Waste Management Plan

#### INTRODUCTION

This plan establishes many goals related to solid waste management in Kansas. Most goals address KDHE responsibilities and activities which are designed to ensure that solid wastes are properly managed and Kansas natural resources are conserved. Although the state does not directly manage solid waste, state programs regulate management by others and provide technical and economic assistance to the local governments and private entities which have the direct responsibility for the management of solid waste. KDHE's efforts to achieve the goals of this plan should help the State of Kansas proceed along a pathway to improved waste management. However, real improvements can only come through the actions of the hundreds of waste handlers as they implement new or enhanced changes to waste management systems.

This chapter paints a picture of solid waste management in Kansas five and ten years in the future. The picture is the department's vision of what is "hoped for," or where we hope to be in 2005 and 2010. The vision is based upon the assumption that KDHE will accomplish the goals set forth in this plan and other people and organizations will work together to provide the

best available services to Kansas citizens and businesses. These outlooks for the future are optimistic, but realistic. Given the major changes which occurred over the past decade, it is reasonable to assume that more modest changes will occur over the next five and ten year periods. Also, waste management practices, levels of service, and participation rates in available programs will continue to vary throughout Kansas because of the diversity of the state, the availability of resources, and the philosophy of local decision-making inherent in state law.

#### OTHER KEY ASSUMPTIONS

No major changes in state or federal laws or regulations are considered likely over this ten year period. This is an important assumption because major regulatory changes can significantly impact the waste management system. This was clearly demonstrated by the changes brought about in the 1990s by the federal Subtitle D municipal solid waste landfill regulations.

Other key assumptions include:

- T Solid waste imports and exports will remain fairly constant

- T State and local financial resources for solid waste programs will grow slightly in order to maintain or slightly enhance services
- T Solid waste management will continue to be a priority for local government units, particularly counties which have the primary responsibility for ensuring that solid waste is adequately managed



- T Partnering between cities, counties, private businesses, institutions, the state, and individual citizens will continue to increase and play a major role in waste management

Partnerships will help Kansas reach many of its waste management goals. Independent thinking and action has been a very common characteristic of Kansas cities and counties for decades; however, changes are occurring in this area and they will continue to occur. Many more partnerships are expected to form over the next ten years as cities and counties begin to understand the many benefits which can be

realized by working together (see Appendix A). **Figure 6-1** shows the types of partnerships which have been or will be formed to improve waste management in Kansas.

### SCOPE OF VISION

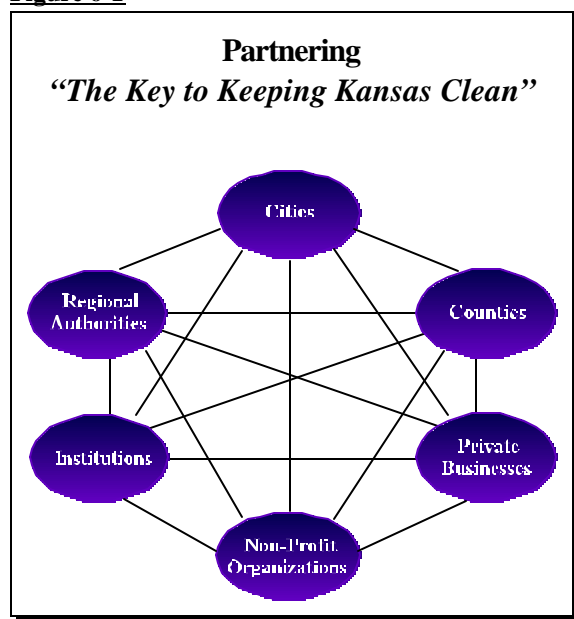
The vision for waste management in Kansas in 2005 and 2010 is described with respect to the following areas:

- Available services and facilities
- Waste reduction
- Public education and awareness
- Information and data management
- Local planning
- Technical training and assistance
- Dump clean-up, maintenance, and long-term care at closed landfills
- Grants

### AVAILABLE SERVICES AND FACILITIES

The availability of services and facilities to manage solid waste is important to every generator of waste. Very few individuals and businesses manage their own waste. Instead, they depend upon public or private services to collect, recycle, process, and dispose of their waste.

**Figure 6-1**



**2005** - Gradual improvements in services and facilities are anticipated over the next five years. The major transition in management facilities from a landfill in every county in 1992 to a mixture of landfills and transfer stations in 2000 is nearly complete. By 2005, the number of MSW landfills should shrink by a few landfills due to: (1) the closure of some facilities which are operating under “vertical expansions” of old unlined disposal cells and (2) the identification of groundwater contamination at one or more small arid landfills in the western half of the state. New transfer stations will take the place of these closing landfills. No growth is expected in the number of solid waste incinerators or other “high-tech” waste management facilities due to the high costs of

construction and operations.

Statewide, the availability of landfill capacity for Kansas generated waste will continue to be adequate; however, some locations will find that long-hauling distances are required. This will add to waste disposal costs for generators and/or taxpayers in these locations and result in other impacts related to environmental protection, fuel consumption, and highway wear. Long hauling situations result for two reasons: (1) counties and/or cities are unwilling to establish new landfills within their jurisdictions due to local impacts or (2) the amount of waste generated within a county is too small to justify the expenditures of building and operating a landfill.

Collection services will increase by 2005 to include a higher percentage of farmers and ranchers and very small communities; however, thorough coverage is not anticipated by this date. Some persons living in rural settings will continue to utilize the legal option of disposing of their waste on their own property. Also, some very small communities will continue to struggle with respect to the availability of collection services when the number of residences is limited.

Recycling and composting services have grown tremendously in the 1990s. Growth in new or enhanced operations will continue through 2005 but probably at a slower pace. Some growth is expected in areas of specialty recycling, such as the recycling of construction and demolition waste, electronic equipment, or fluorescent lamps. In addition, growth is expected in services for the commercial sector. Citizen and business participation in such programs will grow at differing rates across Kansas depending upon the maturity of the local programs. This area is addressed more in the next section of this chapter on "waste reduction." By 2005, most, but not all, Kansas communities will have recycling programs which provide individuals with methods to recycle their wastes. Although the number of central community composting programs will continue to

grow, many cities and counties will still not operate these programs. Most of the larger Kansas communities will operate central composting programs by 2005.

A few additional permitted household hazardous waste (HHW) facilities will be added during this period. In addition, regional programs will be expanded. The net result is that about 90 percent of the state's population will have access to HHW disposal facilities by 2005.

**2010** - Changes from 2005 to 2010 should be gradual and primarily related to facilities which process and/or recycle wastes. Few changes in the permitted MSW universe of landfills and transfer stations is expected. While one or two landfills may decide to close, one or two other counties may decide it is time to establish new MSW landfills. Other public and private landfills will need to expand their permitted capacity at existing sites. In most cases, such expansions should proceed without major permitting problems. The large regional MSW landfills, located primarily in the northeast part of the state will continue to offer adequate capacity for whoever wants to transfer their waste to these facilities. The net change in this universe should be very minor over this period. Some interest in incineration and other MSW waste processing technologies may arise if energy costs escalate significantly. One or two facilities may be established under such conditions.

Many more communities will find it to be cost effective to establish central composting operations by 2010. Continued growth in this group of facilities will occur and most of the state's population will be served by public or privately operated facilities. However, dozens of Kansas cities and counties will still not provide this service.

The Kansas HHW program will reach maturity by 2010 with respect to the availability of programs to serve the public. In addition, those facilities which can feasibly provide disposal

service for small businesses under the “small quantity generator” program will also have made those decisions and changes in their facility permits by this time. Participation by the public in HHW programs will steadily increase through 2010; however, additional improvements in the participation rate will still be possible.

By 2010, individuals and businesses choosing to recycle should have adequate services and opportunities to do so, at least with respect to the traditional recyclable materials. Less adequate services will be available for non-traditional wastes which will still be in earlier stages of development including things such as construction and demolition wastes, electronic equipment, fluorescent lamps, and various industrial process wastes.

## **WASTE REDUCTION**

The previous section addressed the types of facilities which are involved in waste reduction activities including composting, recycling, and HHW facilities. That discussion is not repeated here. This section discusses future waste reduction efforts based upon the most likely availability of services and facilities.

**2005** - Chapter 3 discussed recycling in Kansas in 2000 and estimated the MSW recycling rate to be about 15 percent. Recycling had grown significantly in the 1990s from limited personal and business participation prior to the implementation of the federal Subtitle D regulations in 1993. The slow and steady growth in recycling programs and public participation is expected to continue for the next decade or longer. Many Kansas programs are new and the public is gradually becoming aware of opportunities to participate. In addition, many cities and counties are in the early stages of implementing or enhancing programs utilizing grant funds awarded under the Solid Waste Plan Implementation Grant Program. The changes made through these grants will lead to greater waste recovery and recycling. From 2000 to

2005, MSW recycling should increase by at least one percent per year yielding a rate of 20 to 22 percent in 2005.

The effects of the KDHE “Kansas Don’t Spoil It” public education program, including the extensive outreach efforts targeting students, should help the state achieve the anticipated growth in the recycling rate. As children grow older they will exert more and more influence on waste management practices in their homes. Practices or habits started by children will likely be sustained by parents even after children leave the home.

An important new area of activity which should lead to increased recycling is the establishment of one or more cooperative marketing networks. Several small rural communities in western Kansas have shown a strong interest in this area. Other communities have indicated an interest in establishing local landfill bans (e.g., for yard waste, recyclables, etc.) or mandatory participation in curbside recycling programs. Also, several communities have implemented or plan to implement “volume-based” pricing for solid waste collection. These programs provide their customers with a financial incentive to reduce the amount of waste they dispose. This should lead to greater recycling and modifications in purchasing practices. Overall, these factors should result in a minimum of a one percent per year increase in the statewide MSW recycling rate.

In-state markets for recyclable materials is not likely to change much over the next five years. KDHE’s grant programs which provide economic assistance for market stimulation have not significantly increased in-state markets. However, grants have had a significant impact on increasing the collection, processing, and transportation of recyclables. In 2005, most recovered materials will continue to be marketed as they are in 2000.

Composting will increase significantly from 2000 to 2005 both with respect to central community programs and backyard composting. Mulching of lawns will also increase and yield a major improvement in waste reduction by eliminating waste at the source. These efforts of individuals to reduce the large yard waste component of the MSW stream will not be counted in the official state recycling rate, meaning some important improvements will go unmeasured.

The state HHW diversion rate has also continued to grow each year for the past decade. This program diverted 2.76 million pounds of waste in 1999 from landfills or other undesirable disposal methods. Like recycling, HHW diversion will continue to grow as more people learn about local programs and begin participating. HHW diversion in 2005 should increase to over 3.25 million pounds which is a growth rate of about 5 percent or 100,000 pounds per year.

**2010** - Recycling and HHW diversion should continue growing from 2005 to 2010; however, the growth rate will begin to slow. MSW recycling in 2010 may reach 25 to 28 percent. Yard waste will become a smaller and smaller portion of the waste stream as back yard composting and mulching grows.

HHW diversion should surpass 4.0 million pounds by 2010 as public participation rates grow. However, another trend has begun and will continue which is related to reducing the overall generation of HHW. People will continue to buy less hazardous chemical products and be more careful about the quantities purchased to ensure that little waste is leftover for disposal. Both reasons will combine to result in much less HHW in the solid waste entering landfills.



By 2010, some non-tradition recycling

activities should be better established including a major new network to collect, process, and recycle used electronics and fluorescent lamps. Recycling of various construction and demolition materials will also increase by 2010.



Some new local and regional markets for recyclable materials may become established by 2010; however, such developments are dependent on complex and difficult to forecast factors such as energy prices ( could impact plastics markets and feasible transportation distances), paper product demand, international trade, and innovative technologies.

### PUBLIC EDUCATION AND AWARENESS

KDHE began a solid waste public education initiative in 1996 – the “Kansas Don’t Spoil It” Program. The primary goal of the program is to reach the public with information which will guide them in making wise decisions about how they manage their own solid waste. It is also designed to make people aware of ways they can avoid generating waste. A secondary goal is to provide citizens with information to help them understand natural resource issues and ways to conserve those resources for future generations. The success of various solid waste programs depends upon a well-educated public. The Kansas legislature recognized the importance of public education and has directed KDHE to utilize a portion of its resources for this purpose.



**2005** - The “Kansas Don’t Spoil It” Program will continue to be a major function of KDHE in 2005. Various methods of public education will be utilized; however, the trend to focus more on student initiatives which began in the late 1990s will continue. Adult outreach will be more limited and include things such as newspaper public service announcements (PSAs), targeted editorial pieces, some radio advertising, and public events like the State Fair.

KDHE will partner more with local governments and other organizations to implement future public education initiatives. State and local resources will be combined to present local and regional information. Also, a new “Keep Kansas Beautiful” program, to be administered by a third party organization, will be supported by KDHE to complement the “Kansas Don’t Spoil It” Program. Business partners will be sought to help sponsor various public outreach efforts.

**2010** - Public education is a non-ending task. In 2010, KDHE and local authorities will work together to produce and distribute appropriate public education materials related to proper waste management. The “Kansas Don’t Spoil It” Program and the “Keep Kansas Beautiful” Program will be well-established and consistency will be maintained in their messages. The “Keep

Kansas Beautiful” Program will likely have many new communities as members and a major base of private sector support.



### INFORMATION AND DATA MANAGEMENT

A large volume of data is necessary to thoroughly describe waste management practices and trends in Kansas. The quality of this data is improving each year but additional improvements are necessary.



**2005** - By 2005, KDHE will routinely receive and consolidate accurate and thorough information in areas where current weaknesses exists. These areas include primarily the tons of MSW diverted for recycling and composting and the tons of imports and exports. This information will help KDHE to more accurately estimate the MSW recycling rate. Better information on various



types of industrial solid waste will also be more thoroughly and accurately reported by the generators of the waste.

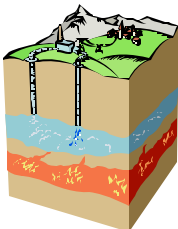
**2010** - Data quality and reporting by all parties will improve. KDHE estimates of MSW recycling will improve. A new data base will be developed summarizing waste reduction/diversion rates for individual counties and/or regions.

### LOCAL PLANNING

Every county in Kansas has a solid waste plan. Some counties are part of regions which planned cooperatively and others completed their own individual plans. Some counties have taken the planning process very seriously and their prepared plans serve as the basis for carefully monitored waste management activities. Other counties demonstrated less interest in solid waste planning and their plans have little impact on day-to-day waste management practices.

**2005** - Several regional planning authorities will reorganize or totally split apart by 2005. KDHE recognizes that this is something several regions would like to do; however, it is a complex process subject to statutory conditions. In 2001, KDHE will begin providing counties with assistance in revising regional plans or preparing individual plans when current regions are no longer practical or necessary.

By 2005, several counties will begin establishing local waste reduction goals in their plans as part of the annual review or 5-year update process. Local goal setting will be encouraged by KDHE and technical assistance will be provided to establish reasonable goals



based upon local waste stream characteristics, resources, and material marketing opportunities.

**2010** - The remainder of regional break-ups or reorganizations will be completed and a stable system of county planning will be in place. More counties will utilize the annual plan review and 5-year update process to establish local goals. More counties will begin monitoring waste management activity within their borders to determine whether local goals are being accomplished.

Several counties will have completed entirely new plans to address changes from regional planning to individual county planning or because major changes in waste management practices are desired.



### TECHNICAL TRAINING AND ASSISTANCE

For many years, KDHE has provided technical training and assistance to the owners and operators of various types of solid waste processing and disposal facilities including landfills, transfer stations, composting facilities, recycling facilities, and household hazardous waste facilities. These outreach efforts have come through seminars, workshops, conferences, special printed guidance documents, routine correspondence, and site visits. Because solid waste facilities are often staffed with city or county personnel with little or no formal education in waste management, it is very important for KDHE to provide this training and for local governments to take full advantage of available training opportunities. Overall, both public and private owners and operators have actively participated in available KDHE training events.

In order to provide ongoing training to facility operators, KDHE staff must themselves be well-trained in all relevant technical areas. It is a

challenge to retain qualified and capable staff within KDHE given competition within the professional job market. KDHE will continue to maintain internal training programs to ensure that all staff are technically competent and properly equipped.

**2005** - KDHE will continue to offer recycling, composting, and household hazardous waste training on an annual basis. Facilities routinely add new workers at these types of facilities and volunteers can also benefit from such training. In addition, state regulations require annual 8-hour refresher training for workers at HHW facilities due to the wide variety of hazards and risks which can be encountered. Landfill and transfer station operator training will continue to be offered every other year. Written technical guidance will be also provided to operators in the form of newsletters, bulletins, and technical guidance documents.

**2010** - Technical training in 2010 should be similar to that offered in 2005. Specialized new training courses will be developed and provided as necessary to address any new requirements or waste processing technologies.

#### **DUMP CLEAN-UP, MAINTENANCE, AND LONG-TERM CARE AT CLOSED LANDFILLS**

The old dump monitoring and maintenance program began in 1993 established an inventory of over 1000 closed or abandoned community dumps. KDHE funded efforts to repair high risk dumps occurs every year in accordance with a site ranking and priority system. A new illegal dump clean-up program was implemented in 2000. Under this program state funds may be used to clean up illegally dumped waste when the person(s) responsible for the dumping are “unknown” or “unable or unwilling” to perform the clean-up.

Closed “permitted” landfills pose a potential

long-term risk to the environment. It is uncertain as to whether a landfill may release contaminants to the groundwater or other environmental media long after it has closed and the responsible party has ceased to exist. Financial assurance is required for “post-closure” care at landfills for thirty years after closure; however, the amount of reserved funds may be inadequate to meet all needs or the actual environmental impacts may not occur until after the thirty-year period is over. Other more complicated problems related to accessing the funds may also occur adding to the possibility that landfill impacts could become a public liability. This issue and its associated concerns were raised in 2000 in Kansas and it is beginning to receive more attention nationally. It is projected that the Kansas legislature will debate this issue before 2005. Some changes to the law will likely be made to minimize the potential that all Kansas taxpayers could be responsible for addressing long-term environmental problems at closed landfills.

**2005** - Both of these clean-up programs will continue to be in operation in 2005. Most high risk community dumps will have been addressed by 2005 and work on lower risk sites will have begun. Cities and counties will have worked with KDHE over the previous five years to clean-up many illegal dump sites, reducing health and safety risks and improving aesthetics.

**2010** - Both programs will continue to be in operation. Work will occur on an as needed basis. Most clean-up and maintenance work should be completed by this time; however, old community dumps will continue to need site repairs from time to time and new illegal dumps will continue to be identified.

#### **GRANTS**

KDHE is authorized to administer four separate solid waste grant programs: (1) plan



implementation grants for projects related to recycling, composting, market development, and public education, (2) household hazardous waste grants for new or expanded facilities, public education, and small quantity generator programs, (3) agricultural pesticide collection and disposal grants, and (4) local planning grants. The current solid waste tonnage fee of \$1.00 per ton will not generate enough revenue to maintain these grant programs at their FY 2001 level through FY 2003.

**2005** - The solid waste tonnage fee will need to be increased perhaps to its original rate of \$1.50 per ton before 2005 to maintain the overall state solid program at a necessary level. In addition to grant programs this includes expenditures related to permitting, compliance and enforcement, public education, technical training, dump clean-up, etc. When the tipping fee debate occurs in 2002 or 2003 in the Kansas legislature, the continuance of the grant program will also be addressed. It is likely that some continuance of the solid waste grant programs will be approved because of two primary reasons: (1) the grant programs have



yielded many benefits to Kansas communities and (2) local recycling, composting, and HHW programs will still be in need of significant improvement at that time. Therefore, some level of the four existing grant programs will continue to be available in 2005.

**2010** - The existing solid waste grant programs will be phased out by 2010. KDHE will continue to provide technical assistance and training in the historical areas of funding, but grants will no longer be available.

## SUMMARY OF FUTURE CONDITIONS

If the numerous solid waste management “partners” of Kansas continue to work together as they have in the past five to ten years, the future looks very good. There have been unprecedented changes from 1993 to 2000 moving the state toward a system of safe and effective solid waste management practices. Trends are in place which is moving Kansas into a sustainable system of waste management for decades to come. The gradual progress that has occurred in waste reduction activities is most noteworthy because improvements have been based primarily upon local efforts to implement programs rather than in response to state mandates. Local support for good waste management is strong in most locations which is important with respect to long-term sustainability and success.

Kansas communities will continue to provide improved services over the next decade with respect to the collection of waste and recyclables, the operation of safe and efficient waste transfer and disposal facilities, and the processing and marketing of materials diverted from the waste stream. Landfill capacity should not be a problem over the next ten years; however, some long distance waste transfers are likely.

The public will become more and more aware of waste management issues and proper management practices during the next decade as a result of state and local educational outreach efforts. This is important because a well-educated public actively participates in voluntary waste reduction programs and makes wise purchasing decisions. Also, educated members of the public are less likely to participate in environmentally undesirable behaviors such as illegal dumping or littering.

The KDHE solid waste program will experience some shifts in emphasis, but all program areas, except grants, will be maintained through 2010. Existing staff resources are adequate to meet projected program needs; however, program funding, which is generated entirely from the landfill tonnage fee of \$1.00 per ton, will probably not be adequate after 2003. The tonnage fee will need to be increased to maintain minimum services related to all program areas. The amount of the increase will be related to the continuance of the solid waste grant programs which will have been very important in stimulating local waste reduction projects. A return of the tonnage fee to its original level of \$1.50 per ton in 2002 will allow grants to continue through 2005 and then cover all other program costs for several more years.

In summary, no major statewide concerns related to solid waste management are anticipated through 2010. The state role in waste management will continue with only minimal changes in areas related to compliance and enforcement, technical training, public education, and dump monitoring and clean-up. If, or when, grant programs phase out, KDHE staff will place even greater emphasis on providing technical assistance and guidance to help local officials most effectively manage their waste given the availability of local and regional resources.